# A revision of the genus *Acrophymus* Uvarov (Orthoptera: Acridoidea)

by

## V. M. DIRSH

Anti-Locust Research Centre, 1 Princes Gate, London, SW 7, England (Submitted through H. Dick Brown, Division of Entomology, Pretoria)

The genus Acrophymus was erected by Uvarov in 1922 and he referred to it two species: Euryphymus squamipennis Brancsik, 1898, the type species of the genus, and Euryphymus sigmoidalis I. Bolivar, 1889. Miller in 1936 and 1949 added two new species. Uvarov in 1953 described two more new species and transferred Caltopenus obesus I. Bolivar, 1889 to it. Johnston (1956) in his "Catalogue of African Grasshoppers" listed eight species of Acrophymus. Two more species are described as new below.

The lateral lobiform elytra and the general external appearance have been regarded as the main characters of the genus. Superficial observation partly confirms this view. However, when the phallic complex was studied, a great diversity was found in its structure, and on the basis of this character it is hardly possible to regard all the species as belonging to the same genus. In fact, on the basis of the phallic complex alone it would be necessary to split Acrophymus into at least two genera.

Owing to the uniform external appearance and the difficulty of identification without studying the phallic complex, the genus, for practical purposes only is temporarily left in its present scope. It is, however, becoming better known and after this revision collectors will probably pay more attention to it, and many more species may well be discovered, thus increasing the possibility of grouping them more accurately.

#### Genus ACROPHYMUS Uvarov, 1922

Of medium size, robust. Integument rugose or smooth. Antenna filiform, shorter than or as long as head and pronotum together. Fastigium of vertex short, with obtusangular, almost rounded apex, above wide or comparatively narrow, concave or slightly convex, with more or less developed lateral carinulae; weak carinula of vertex present; frontal ridge flat. Pronotum low tectiform, crossed by three strong sulci; median carina well developed, low; lateral carinae irregular, wrinkle-like or well developed; metazona shorter than prozona. Prosternal process short, conical or tongue-shaped; mesosternal interspace wider than its length. Elytra lobifrom lateral (micropterous) or approximating to

shortened (brachypterous); wings shorter than elytra. Tympanum large, open. Hind femur widened; arolium large. End of male abdomen slightly upcurved; posterior margin of last abdominal tergite sclerotized, blackened. Supra-anal plate in male with ridges and sclerotized, black tubercles; apex forms projection; in female plain, angular. Male cercus of variable shape, with robust basal part; in female simple angular, compressed. Male subgenital plate short, subconical, with rounded apex; in female trilobate. Valves of ovipositor short, robust, with acute, curved apices; lower valve widened, with compressed lateral projection. Phallic complex of variable structure; epiphallus with long, single lobed lophi with acute apices; or lophi bilobate, with rounded apices. Ectophallus with ectophallic membrane strongly sclerotized, particularly in distal part, forming teeth, bulges and other sculpturing; cingulum strong, U-shaped; arch of eingulum robust; valves of cingulum strongly sclerotized, comparatively narrow, sometimes sculptured, exceeding end of apical valves of penis; basal valves of penis strongly sclerotized, robust, connected with apical valves by thick flexure; apical valves of penis less strongly, sometimes weakly sclerotized, leaf-like compressed, of variable form and mostly enveloping or partly enveloping valves of cingulum. Spermatheca with two-branched diverticulum and additional third branch. Coloration brown or brownish with yellowish ventral surface.

Type species: Euryphymus squamipennis Brancsik, 1897.

The species of the genus Acrophymus could be well defined by the structure of the phallic complex. It is strikingly different in all known species. The most remarkable feature is that the ectophallic membrane is strongly sclerotized, sometimes forming a strong dorsal shield; it has a tendency to form a capsule, covering not only most parts of the endophallus, but the cingulum as well. A second feature is the comparatively large, compressed, widened and comparatively weakly sclerotized distal part of the apical valves of the penis. The valves of the cingulum, however, are narrow and strongly sclerotized.

Two species, A. obesus and A. ocreatus possess a very peculiarly shaped epiphallus, with bilobate lophi which are rounded at the apices. Usually in Acrophymus and in Euryphyminea generally, the lophi are represented by a single long lobe with an elongated, acute apex. Possibly, these two species should be treated as a separate genus.

#### Key to species

- 1 (12) Male cercus straight or regularly upcurved.
- 2 (11) Elytra lobiform, lateral, not reaching fourth abdominal tergite.
- 3 (8) Male cercus straight.
- 4 (5) Male supra-anal plate longer than its width (fig. 1). . . . squamipennis
- 5 (4) Male supra-anal plate shorter than its width.

### Journal Ent. Soc. S. Africa: Vol. 26, No. 1, June 30th, 1963 66 (7) Both apical angles of elytron slightly protruding (fig. 2) . . . cuspidatus (6) Upper apical angle of elytron strongly protruding (fig. 3) . . . . (3) Male cercus gradually upcurved. 9 (10) Male cercus short, widened at apex. Upper apical angle of elytron strongly attenuate and protruding (fig. 4) . . . . (9) Male cercus elongated, gradually narrowing towards apex. 10 Upper apical angle of elytron not attenuate and not obesus protruding at all (fig. 6) (2) Elytra intermediate between lobiform and shortened, reaching fourth abdominal tergite and slightly overlapping in distal part 12 (1) Male cercus in apical half rectangularly upcurved, forming tooth like vertical projection (fig. 7) . . . . . . . . Acrophymus squamipennis (Brancsik, 1897), fig. 1 Euryphymus squamipennis Brancsik, 1897. Type \( \text{?} \), lost; type locality: "R. Zambezi". Neotype \( \text{?} \), neotype locality: S. Rhodesia, Shamva; British Museum (N.H). Acrophymus squamipennis (Brancsik, 1897). Acrophymus rhodesianus Miller, 1936. Type 3, type locality: S. Rhodesia, Amandas; British Museum (N.H.).

MALE: Fastigum of vertex wide, hexagonal, concave. Lateral carinae of pronotum weak, undulated and diverging backwards; posterior margin of metazona widely obtusangular. Prosternal process short, conical, with wide base and acute apex. Elytron wide, covering tympanum, with wide, incurved apical margin and attenuate upper apical angle. Hind femur strongly widened, with expanded lower external apical area. Sclerotization of posterior margin of last abdominal tergite strong. Supra-anal plate longer than its width, with two large lateral and two smaller median, black sclerotizations; apical projection comparatively long and narrow, cercus robust, its basal part longer than apical; apex widened, with well developed, projecting lower angle. Epiphallus with narrow, acute lophi. Ectophallic membrane moderately sclerotized; valves of cingulum straight, long, with hook-shaped apex, apical valves of penis widened, lamelliformly compressed with attenuate apex. General coloration brownish-ochraceous; ventral surface yellowish; median part of elytron with ochraceous longitudinal stripe; hind femur above with two brown transverse fasciae, internal side yellow; hind tibia yellow, with black spines; sclerotization of last abdominal tergite, and on supra-anal plate and margins of apical half of cercus black.

FEMALE: As the male but larger. Lower valve of ovipositor with large lateral projection. Subgenital plate trilobate.

Lenght of body: 3 20.5-24.0, 9 26.0-31.0; pronotum: 3 5.6-6.0, 9 6.0-7.5; elytron: 3 4.0-5.0, 9 5.0-5.5; hind femur: 3 7.6-8.8, 9 13.6-16.5 mm.

The species is variable in body size, shape of elytra and general coloration of body, which ranges from light brownish-ochraceous to dark brown. 31 specimens were examined.

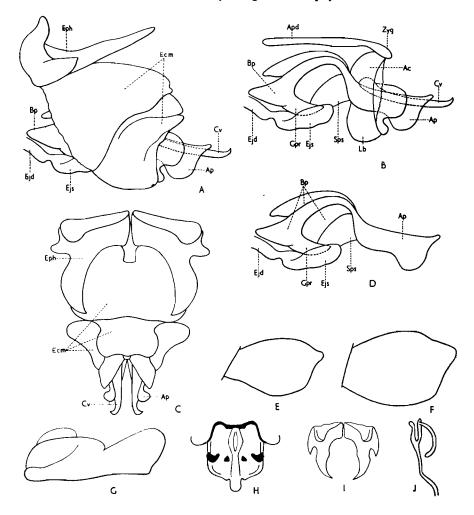


Fig. 1. A. squamipennis. A, phallic complex, lateral view; B, the same as A, but epiphallus and ectophallus membrane removed; C, phallic complex from above; D. endophallus, lateral view; E, male left elytron; F, female left elytron; G, left male cercus; H, male supra-anal plate; I, epiphallus, with lophi in horizontal position; J, spermatheca.

Ac. arch of cingulum; Ap. apical valve of penis; Apd. apodemes of cingulum; Bp. basal valve of penis; Cv. valve of cingulum; Ecm. ectophallic membrane; Ejd. ejaculatory duct; Ejs. ejaculatory sac; Eph. epiphallus; Gpr. gonopore process; Lb. lobe; Sps, spermatophore sac; Zyg. zygoma of cingulum.

The Q-type of Euryphymus squamipennis Brancsik was examined by me in 1953, before destruction of the collection of the Budapest Museum, and compared with the female paratype of A. rhodesianus Miller. These two species were found to be identical and were synonymized (Dirsh, 1956).

DISTRIBUTION: S. Rhodesia: Selukwe, Shamvd, Amandes (Miller's material for A. rhodesianus); Mashonaland, Salisbury, 5000 ft. Umtali, Odji Distr. N. Rhodesia: Serenje Distr., Chitambo, N.E. of Kapiri Mposhi, Fort Jameson. Tanganyika: Milepa Plain. Mozambique: Changara.

Acrophymus cuspidatus (Karsch, 1900), fig. 2

Euryphymus cuspidatus Karsch, 1900. Type 3, type locality: Tanganyika, Mpwapwa. Berlin Museum.

Acrophymus cuspidatus (Karsch, 1900).

Acrophymus cochleatus Uvarov, 1953. Type &, type locality: N.W. Rhodesia, Luano Valley. British Museum (N.H.) (Syn. nov.).

MALE: Fastigum of vertex moderately wide, concave, approximating to hexagonal form. Lateral carinae of pronotum weak, undulated and diverging backwards; posterior margin of metazona widely rounded. Prosternal process short, conical, with wide base and acute apex. Elytron moderately wide, covering tympanum, its apical margin not widened, slightly incurved, upper apical corner scarcely attenuate. Hind femur strongly widened, with expanded lower external apical area. Posterior margin of last abdominal tergite strongly sclerotized. Supra-anal plate wider than its length, with two large lateral and two small median black sclerotizations; apical projection short with rounded apex. Cercus comparatively slender, with apical part longer than basal one; apex widened, with rounded apex. Epiphallus with narrow, slightly incurved lophi acute at apices. Ectophallic membrane moderately sclerotized, with two large lateral projections; valves of cingulum straight, moderately long, with hook-shaped apex; apical valves of penis widened, compressed. General coloration brownish-ochraceous; ventral surface yellow; median part of elytron with ochraceous longitudinal stripe; hind femur above with two brown fasciae, internal side yellow; hind tibia yellow; spines of hind tibia with brown apices; sclerotization of last abdominal tergite and of supra-anal plate black.

FEMALE: As the male but larger. Lower valve of ovipositor with large lateral projection. Subgenital plate shallowly trilobate.

Length of body & 22.7-28.3, \$\, 29.0-35.6; pronotum \$\, 5.6-8.0, \$\, 8.5-9.3; elytron \$\, 4.0-5.0, \$\, 4.0-6.0; hind femur \$\, 14.0-15.3, \$\, 16.2-18.0. mm. 37 specimens examined.

DISTRIBUTION: Tanganyika: Mlemu, Dodoma, Singida, Mpwapwa, Kikombo. N. Rhodesia: Luano Valley, Chisorve.

The type of A. cochleatus and the type and a series of A. conspidatus were compared and found identical. The differences indicated in the original description of A. cochleatus do not exceed the range of individual variability. (The drawing of the male cercus in the original description is from above.)

The species is variable in body size, slightly in the shape of the pronotum, which may be more or less tectiform and wider or narrower, and in general coloration, which varies from dark brown, sometimes with a reddish tinge, to light, almost ochraceous-brown.

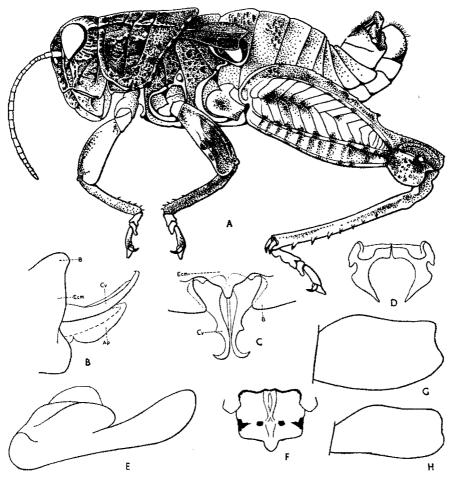


Fig. 2. A. cuspidatus. A, male; B, distal end of phallic complex, lateral view; C, the same as B, from above (letters as in fig. 1, B indicates lateral bulge of ectophallic mebrane); D, epiphallus; E, left male cercus; F, male supra-anal plate; G, female left elytron; H, male left elytron.

Acrophymus veseyi spec. nov., fig. 3

Type &, type locality: N. Rhodesia, Luangwa, British Museum (N.H.).

MALE: Type. Of medium size, robust. Fastigium of vertex moderately wide, slightly concave, approximately hexagonal; lateral carinae of pronotum weak, irregular, diverging backwards; posterior margin of metazona widely rounded. Prosternal process short, conical, slightly anteroposteriorly compressed, with wide base and subacute apex. Elytron covers tympanum, widening towards apex, with strongly attenuate apical angle and incurved apical margin. Hind femur strongly widened, with expanded lower external area. Sclerotization of posterior margin of last abdominal tergite strong. Supra-anal plate wider than its length, with two small lateral and two median sclerotizations; apical projection short and wide, with obtuse apex, Cercus comparatively slender, with apical part much longer than basal one; apex regularly rounded. Lophi of epiphallus with expanded external sides, sligthly incurved, with acute apices. Ectophallic membrane strongly sclerotized and forms pair tooth-like, incurved apical projections. Valves of cingulum narrow, sligthly upcurved, with hookshaped apex; apical valves of penis wide, compressed, of irregular leaf-like

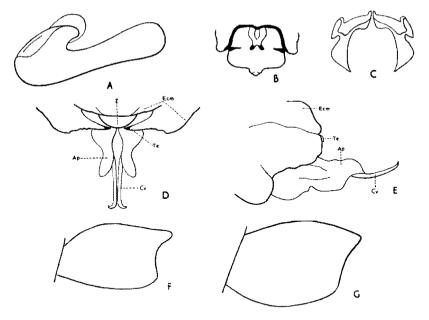


Fig. 3. A. veseyi. A, left made cercus; B, male supra-anal plate; C, epiphallus; D, distal end of phallic complex from above; E, the same as D, lateral view (letters as in fig. 1; Te indicate tooth formed by ectophallic membrane); F, male left elytron; G, female left elytron.

form. General coloration brownish; ventral surface yellowish; elytron dark brown, with light brown longitudinal stripe; internal side of hind femur yellow, with brownish preapical spot; upper side of femur with two indefinite brownish transverse fasciae; hind tibia yellow, with brown spot in basal part; spines brown.

FEMALE: As the male, but larger. Subgenital plate trilobate.

Length of body: 321.3.25.0, 227.0.34.0; pronotum: 36.0.7.1, 27.2.8.7; elytron: 36.5.2, 45.6.0; hind femur: 12.4.15.5, 15.0.18.2 mm.

This new species varies in body size, shape of elytra and size of sclerotizations of supra-anal plate, and in coloration from dark brown to brownish-ochraceous.

A. veseyi belongs to the same group of species as A. squamipennis and A. cuspidatus; it differs from them, however, in the peculiar tooth-like formations of the ectophallic membrane on the distal part of the ectophallus, which does not occur in any other known species; in the shape of the male cercus, with the apex evenly rounded; and in the slightly raised prozona of the pronotum.

DISTRIBUTION: N. Rhodesia: Luangwa, two & one &; Chinsali, one &; Abercorn, one &, four &; Mweru Wa Ntipa, two &; Kasama, one &; Mpika, one &. Tanganyika: Nkundi, Ufipa, one &; Mpui, Ufipa, one &; Malinje, Ufipa, one &; Lake Rukwa, Pembe River, one &, two &; Rukwa, Milepa, one &, one &, March-August. (L.D.E.F. Vesey-Fitzgerald).

Acrophymus lobipennis Miller, 1949, fig. 4

Acrophymus lobipennis Miller, 1949. Type &, type locality: S. Rhodesia, Victoria Falls. British Museum (N.H.).

MALE: Fastigium of vertex comparatively narrow, elongated, narrowed at apex, with well developed lateral carinulae. Lateral carinae of pronotum distinct, excurved and slightly diverging backwards; posterior margin of metazona of pronotum obtusangular. Prosternal process short subconical, with obtuse apex. Elytron slightly exceeds second abdominal tergite, with strongly expanded anterior margin and narrowed apex. Hind femur widened, with slightly expanded lower external area. Posterior margin of last abdominal tergite moderately sclerotized. Supra-anal plate slightly wider than its length, narrowing towards apex, with two small median sclerotizations; apical projection small angular. Cercus short, upcurved, with apical part narrow, longer than basal one; apical margin oblique. Epiphallus with lophi comparatively wide, acute at apices. Ectophallic membrane strongly sclerotized, forming shield-like dorsal covering of ectophallus; valves of cingulum short, narrow, with hook-shaped apices; apical valves of penis strongly widened, compressed, almost enveloping valves of cingulum. General coloration brownish; ventral surface yellowish; elytron brown with ochraceous longitudinal stripe in vannal fold; hind femur above with two brown fasciae; internal side yellowish; hind tibia yellowish; spines brown; sclerotizatons of margin of last abdominal tergite and supra-anal plate black.

Length of body: 3 19.0-19.3, \$\, 24.0-30.0; pronotum \$\, 5.0\$, \$\, 6.0-6.7; elytron: 3 5.0-5.2, \$\, 5.7-8.0\$; hind femur: 3 12.0, \$\, 14.6-15.3\$ mm.

This species is variable in body size, length and form of elytra and general coloration from light to dark brown. 8 specimens examined.

A. lobipennis is not closely related to any other species of the genus, but is nearer to the group squamipennis, cuspidatus and veseyi than to the other species.

DISTRIBUTION: S. Rhodesia: Victoria Falls. Bechuanaland: Ngamiland.

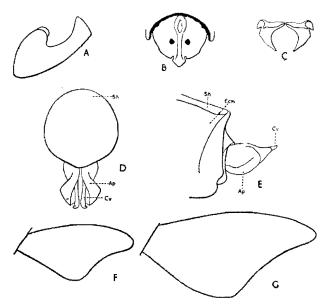


Fig. 4. A. lobipennis. A, left male cercus; B, male supra-anal plate; C, epiphallus; D, phallic from above (letters as in fig. 1, Sh - indicates dorsal shield formed by ectophallic membrane); E, distal end of phallic complex, lateral view; F, male left elytron; G, female left elytron.

Acrophymus rossi spec. nov., fig. 5

Type  ${\mathfrak F}$ , type locality: S. Rhodesia, 54 miles S. of Umtali, California Academy of Sciences.

MALE: Type. Fastigium of vertex elongate, narrow, strongly concave, with high lateral carinulae, which are parallel in basal and slightly converging in

apical part. Lateral carinae of pronotum well developed, incurved in prozona, weak and divergent in metazona; posterior margin of metazona obtusangular. Prosternal process short, anteroposteriorly compressed, tongue-shaped. Elytra reaching fourth abdominal tergite, with strongly excurved anterior margin and slightly overlapping in distal half of dorsal side; venation reduced, but approximate to the normal long-winged pattern. Hind femur strongly widened, with expanded lower external area. Sclerotization of posterior margin of last abdominal tergite moderately strong. Supra-anal plate much wider than its length, with two small lateral and two large medial sclerotizations; apical projection short, angular. Cercus robust, with wide apical part of the same length as basal part; its apical margin wide, oblique, with slightly projecting upper and lower angles. Epiphallus with comparatively wide distal lateral expansions and lophi acute at apices. Ectophallic membrane strongly sclerotized but not forming definite sculpture. Valves of cingulum short, slightly upcurved, with acute and slightly incurved apices, apical valves of penis strongly widened, compressed, of irregular shape.

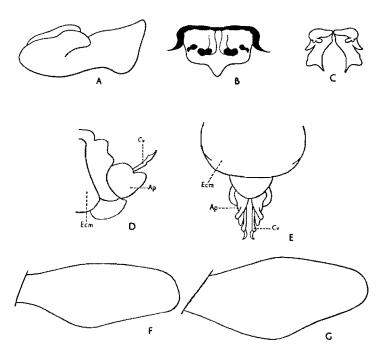


Fig. 5. A. rossi. A, left male cercus; B, male supra-anal plate; C, epiphallus; D, distal end of phallic complex, lateral view. E, the same as D, from above. F, male left elytron. G, female left elytron.

General coloration brownish-ochraceous; ventral surface yellowish; elytron brown, with light brown stripe along vannal fold; hind femur above with two brown fasciae, internal side yellowish; hind tibia yellow; spines brown.

FEMALE: Paratype. As the male, but larger. Subgenital plate deeply trilobate. Lower valve of ovipositor with large, strongly compressed lateral projection.

Length of body:  $3 \cdot 22.1$ ,  $2 \cdot 27.5 \cdot 32.0$ ; pronotum:  $3 \cdot 5.0$ ,  $2 \cdot 6.0 \cdot 6.5$ ; elytron:  $3 \cdot 8.0$ ,  $2 \cdot 8.0 \cdot 11.0$ ; hind femur:  $3 \cdot 13.0$ ,  $2 \cdot 14.0 \cdot 15.5$  mm.

The females of the new species vary in length of elytra and general

coloration, being darker or lighter.

A. rossi differs from other species of the genus in the comparatively narrow fastigium of the vertex; in the more developed elytra, which can hardly be described as lobiform, as they are overlapping in the apical half; in the expanded lophi of the epiphallus and in the structure of the valves of the cingulum and the apical valves of the penis.

The species is named after Dr E. S. Ross, who with Dr R. E. Leech, collected it.

DISTRIBUTION: S. Rhodesia: 54 miles S. of Umtali, 560 m, one \$\mathcal{G}\$, one \$\mathcal{G}\$. 12 miles S. of Chipinga, 970 m, three \$\mathcal{G}\$ \$\mathcal{G}\$, March 1958.

Type and two ♀-paratypes in the California Academy of Sciences. Two ♀-paratypes in the British Museum (N.H.).

Acrophymus obesus (I. Bolivar, 1889), fig. 6

Caloptenus obesus I. Bolivar., 1889. Type Q, lost; type locality: Angola, Humbe. Paracaloptenus obesus (I. Bolivar, 1889).

Acrophymus obesus (I. Bolivar, 1889).

Fastigium of vertex moderately narrow, slightly convex and rugose. Lateral carinae of pronotum well developed, irregular, slightly diverging backwards; posterior margin of metazona slightly incurved. Prosternal process short, conical, with wide base and acute apex. Elytron covering most of the tympanum, slightly exceeding second abdominal tergite, comparatively narrow, with slightly incurved apical margin. Hind femur widened, with expanded lower external area. Posterior margin of last abdominal tergite strongly sclerotized with a pair of angular projections. Supra-anal plate wider than its length, with two strong ridges in basal part; apical projection short, angular. Cercus long, with slender, slightly upcurved apical part and rounded apex. Lophi of epiphallus large, bilobate, rounded at apices; upper lobe shorter than lower one. Ectophallic membrane of ectophallus strongly sclerotized, forming dorsal shield; distal part of this is protruding backwards forming two strong projections, with excurved apical lateral angles; valves of cingulum short, with acute apices; apical valves of penis wide, compressed, in profile, with angular apices. General coloration brownish; ventral surface pale ochraceous; lateral lobes of pronotum with large darkish spot; hind

femur above with two brown fasciae; internal side yellow-ochraceous; hind tibia yellowish; spines brown.

FEMALE: As the male, but larger. Subgenital plate deeply trilobate. Lower valve of ovipositor with large, compressed, lateral projection.

Length of body: & 20.0-21.0, \( \phi \) 26.0-28.2; pronotum: \( \delta \) 5.8-6.0, \( \phi \) 6.7-8.0; elytron: \( \delta \) 4.0-4.2, \( \phi \) 3.6-5.2; hind femur: \( \delta \) 12.0-13.7, \( \phi \) 15.0-16.0 mm. 7 specimens examined.

A. obesus varies in length and shape of clytra, which may be longer or shorter, more or less widening towards apex, with variable incurved apical margin.

DISTRIBUTION: Angola: Libito, Distr. of Moxico, 30 km. Bela Vista.

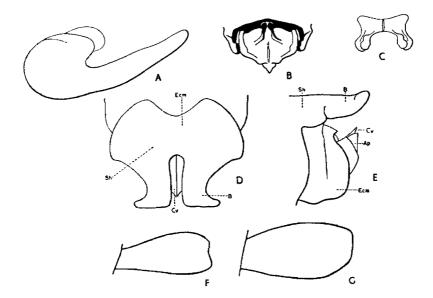


Fig. 6. A. obesus. A, male left cercus; B, male supra-anal plate; C, epiphalius; D, distal end of phallic complex from above; E, the same as D, lateral view (letters as in fig. 1, Sh-indicates dorsal shield, B-projection); F, male left elytron; G, female left elytron,

Acrophymus ocreatus Uvarov, 1953, fig. 7

Acrophymus ocreatus Uvarov, 1953. Type &, type locality: Angola Moxico distr., Luena River. British Museum (N.H.).

MALE: Fastigium of vertex moderately wide, concave, almost hexagonal, with low lateral carinulae. Lateral carinae at pronotum comparatively regular,

slightly incurved prozona, excurved in metazona and slightly diverging backwards; posterior margin of metazona widely rounded. Prosternal process anteroposteriorly compressed, tongue-shaped, with rounded apex. Elytron wide, partly covering tympanum and reaching middle of second tergite, its anterior margin expanded, apex narrowed. Hind femur strongly widened, with expanded lower external area. Posterior margin of last abdominal tergite strongly sclerotized, with angular median and two small, rounded, lateral projections. Supra-anal plate wider than its length, narrowing towards apex, with long narrow apical projection and paired apical lobes. Cercus robust,

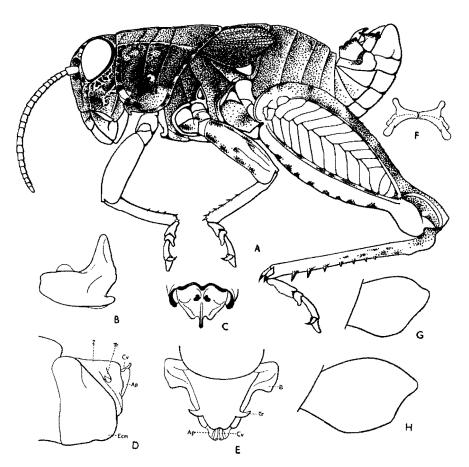


Fig. 7. A. ocreatus. A, male; B, male left cercus; C, male supra-anal plate; D, distal end of phallic complex, lateral view; E, the same as D, from above (letters as in fig. 1, Tr - indicates lateral tooth formed by ectophallic membrane); F, epiphallus; G, male left elytron; H, female left elytron.

with large, robust basal part, apical part rectangularly upcurved, with tooth-like subacute apex; at apex of lower side of basal part there is small obtuse tooth with slightly incurved apex. Epiphallus of moderate size, bilobate, rounded at apices lophi, with upper lobe longer than lower one. Ectophallic membrane of distal part of ectophallus strongly sclerotized, with pair strong, tooth-like lateral projections; valves of cingulum short, upcurved, with curved apices, apical valves of penis short, compressed.

General coloration brown; ventral surface ochraceous; hind femur above with two brownish fasciae, internal side ochraceous; hind tibia yellowish; spines brown.

FEMALE: As the male, but larger. Elytron with more attenuated apex than in male. Subgenital plate trilobate; lower valve of ovipositor with rounded lateral projection.

Length of body: 3 17.0, \$ 25.0; pronotum: 3 6.0, \$ 7.5; elytron: 3 4.0, \$ 5.0; hind femur: 3 12.0, \$ 15.0 mm.

Only the originally described specimens of A. ocreatus were examined. The species differs very much from other species of the genus in the shape of the male cercus, epiphallus and phallic complex. The structure of the epiphallus is however similar to that of A. obesus, but other characters of the phallic complex are quite different.

DISTRIBUTION: Angola: Moxico Distr., Lucna River, Katula, Loagenda River, Villa Luso to Cameia Road, Upper Chonga.

Acrophymus sigmoidalis (1. Bolivar, 1889)

Euryphymus sigmoidalis I. Bolivar, 1889. Type  $\mathfrak{P}$ , lost; type locality: Angola, Humbe.

Acrophymus sigmoidalis (I. Bolivar, 1889).

This species is known only by description. The Q-type is lost and the description is so inadequate that identity of the species remains unknown. It probably does not belong to the genus Acrophymus.

#### REFERENCES

BOLIVAR, I., 1889-90. Ortópteros de Africa del Museo de Lisboa. *J. Sci. math. phys. nat. Lisboa* (2) 1: 73-112, 150-73, 211-32, pl. 1.

BRANCSIK, K., 1897. Series Orthopterorum novorum. Jh. naturw. Ver. (MusVer.) Trencsin 19-20: 52-85, pls. 1-3.

DIRSH, V. M., 1956. Orthoptera, Acridoidea. South African Animal Life 3: 121-272, 42 figs., pl. 2.

KARSCH. F., 1900. Vorarbeiten zu einer Orthopterologie Ostafrikas, *Ent. Nachr.* **26**: 27**4**-87, 2 figs.

- MARTINEZ y FERNANDEZ, A., 1902. Revisión y estudio del grupo Calopteni. An. Soc. esp. Hist nat. 30: 253-309.
- MILLER, N. C. E., 1936. A collection of Acrididae made in Southern Rhodesia (Orthoptera). Proc. R. ent. Soc. Lond. (B) 5: 153-61, 5 figs.
- ———, 1949. A new genus and new species of Acrididae (Orthoptera) from Southern Rhodesia. Ann. Mag. nat. Hist. (12) 2: 679-87, 4 figs.
- UVAROV, B. P., 1922. Notes on the Orthoptera in the British Museum 2. The group Calliptamini. *Trans ent. Soc. Lond.* 1922: 117-77, pl. 1.
- Rhodesia collected by Dr. Malcolm Burr in 1927-28, Publ. cult. Cia Diamant. Angola 21: 9-217, 295 figs.